

ORIGINAL



0000038344

BEFORE THE ARIZONA CORPORATION C

RECEIVED

Request for Clarification and
Modification of the Solar HVAC) Docket No. RE-00000C-00-0377
Pilot Program Established under 2006 JAN 17 12: 25
the Environmental Portfolio Standard)

Request for Clarification of APS AZ CORP COMMISSION
Partial Variance for Treatment of Solar) DOCUMENT CONTROL
Thermal under the Environmental) Docket No. E-01345A-03-0660
Portfolio Standard)

REQUEST FOR CLARIFICATION

S.O.L.I.D. USA, Inc. (SOLID) is a solar HVAC developer doing business in Arizona. SOLID will be installing its first Arizona project under the Solar HVAC Pilot Program in February, 2006. SOLID has four projects pending with the City of Tucson and numerous other projects under development in the Valley and in southern Arizona. Except for the first, all of these projects displace natural gas for heating and/or hot water associated with a solar cooling system. In order to move forward with any more than one and possibly any of these projects and participate in the APS 2006 EPS Credit Purchase Program (CPP), APS has requested that we receive clarification of two issues.

Relevant Decisions

On October 31, 2003, the Commission granted a partial variance for APS (APS Variance) to "utilize EPS funding for, and claim as credits toward meeting its EPS requirements, no more than two (2) customer installations per calendar year" that displace natural gas with solar water heating "with a total displacement of natural gas not to exceed 60,000 therms per calendar year." (Decision Attached.)

On October 26, 2004, the Commission established a Solar HVAC Pilot Program (Pilot Program) to "encourage the installation and operation of five solar HVAC systems as part of the Arizona Environmental Portfolio Standard." These systems must include solar air conditioning, but "may also include solar water heating or solar space heating, or both." (Decision Attached.)

On November 21, 2005, APS filed an application for approval of its 2006 CPP, which includes two categories: 1) large solar water heating, which is subject to the APS Variance, and 2) cooling, plus heating and hot water that is part of a solar HVAC system, that replace electric systems or other HVAC systems as "approved by the ACC."

Background and Issues to be Clarified

Since enactment of the Pilot Program, two projects (by two different companies, in APS service territory) have been reserved and will be installed in the spring of 2006. One of these projects displaces natural gas in addition to providing cooling, a project by Industrial Solar Technologies. One displaces electricity only, the SOLID project noted above.

Industry has been working with APS for the past six months on the development of its 2006 CPP for commercial and industrial solar cooling, heating, and hot water. APS filed its 2006 CPP on November 21, 2005. During development of the CPP, APS raised the following two issues for which clarification from the Commission is requested:

1. Does the APS Variance apply to the Solar HVAC Pilot Program? As discussed below, we request clarification that it does not.
2. Does solar heating and/or hot water that is a product of a solar HVAC system (with cooling) and displaces natural gas count under the EPS as part of the Pilot Program? As discussed below, we request clarification that it does.

Discussion

The APS Variance Should Not Apply to the Pilot Program

The APS Variance and the Pilot Program were directed towards two different types of projects. The APS Variance was directed towards very large "water heating" projects, those that produce hot water only, such as the federal prison installation north of Phoenix in APS service territory. The Variance was requested so that other such projects could be developed and included in the EPS. The Pilot Program was established separately to "encourage the installation and operation of solar cooling projects" that could "include solar water heating or solar space heating, or both." Solar HVAC systems are fundamentally different than large solar hot water only projects.

The average SOLID solar HVAC system is designed so that it primarily replaces electricity used for cooling with solar energy. To a lesser extent, the solar HVAC system may displace natural gas that is used for space heating and/or domestic hot water (DHW). This is in contrast to the large solar domestic hot water systems that prompted the APS Variance. These systems are designed to be installed in applications where large volumes of domestic hot water are produced (e.g. prisons, hospitals, etc.), and, therefore, displace a relatively large volume of natural gas per project.

The order establishing the Pilot Program was silent on the issue of the APS Variance, but the language clearly indicates that the Commission recognized the need to combine solar space cooling with solar space heating and/or hot water. Because most of the space heating and hot water in Arizona is produced using natural gas, most solar HVAC systems will displace gas in addition to displacing electricity. This approach allows the solar plant to be operational 12 months out of the year instead of only operating for the five to six month cooling season. Without the increased annual operating hours, most solar cooling projects in Arizona would not be economically feasible at this time. As the market develops and increase in volume allows system costs to be lowered, solar cooling by itself is expected to be economically compelling in the future.

When seeking establishment of the Pilot Program, SOLID (the successor to So Cool Energy, the entity that filed the original request) did not believe that the APS Variance applied. SOLID has worked under this understanding for the past year since the Pilot Program was enacted. We believe that Staff agrees with us on this issue.

The Pilot Program Should Allow Displacement of Natural Gas

As described above, solar HVAC systems produce not only cooling, but also heating and hot water. These systems displace both electricity, for cooling, and in most instances, natural gas for space heating and hot water. The order establishing the Pilot Program specifically indicated that the system could "include solar water heating or solar space heating, or both." SOLID has been working under the belief that a project under the Pilot Program could displace natural gas for heating and/or hot water and be counted under the EPS. Further, one project has been approved under the Pilot wherein natural gas is being displaced. Again, we believe that Staff is in agreement with this interpretation.

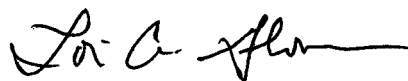
Under this scenario, SOLID worked with APS to establish the CPP with numbers that would allow solar HVAC projects to go forward in Arizona. Without CPP incentives for the heating and hot water output from an HVAC system, the CPP will not be adequate to support these projects.

Clarification Request

SOLID therefore requests the following clarifications:

The APS Variance allowing solar water heating only that displaces natural gas to be recognized for the EPS does not apply to the Solar HVAC Pilot Program. Projects under the Solar HVAC Pilot Program, which displace electricity for air conditioning, can displace natural gas for associated space heating and water heating and be counted under the EPS.

Submitted January 17, 2006 by,



Lori A. Glover
co-CEO
S.O.L.I.D. USA, Inc.
10645 N. Tatum Blvd., Suite 200
Phoenix, AZ 85028
lglover@solidsolar.com

RECEIVED

BEFORE THE ARIZONA CORPORATION COMMISSION 48

MARC SPITZER

Chairman

WILLIAM A. MUNDELL

Commissioner

JEFF HATCH-MILLER

Commissioner

MIKE GLEASON

Commissioner

KRISTIN K. MAYES

Commissioner

AZ CORP COMMISSION
DOCUMENT CONTROL

IN THE MATTER OF ARIZONA PUBLIC
SERVICE COMPANY - REQUEST FOR A
PARTIAL VARIANCE TO A.A.C. R14-2-1618
TO ALLOW RENEWABLE SOLAR
THERMAL ENERGY THAT REPLACES
NATURAL GAS USAGE TO BE
RECOGNIZED FOR THE
ENVIRONMENTAL PORTFOLIO
STANDARD

DOCKET NO. E-01345A-03-0660

AMENDED APPLICATION

1. On September 9, 2003, APS filed a request for a partial variance of Arizona Administrative Code ("A.A.C.") R14-2-1618 to allow solar thermal energy that replaces natural gas to be recognized for the Environmental Portfolio Standard ("EPS").

2. Southwest Gas Corporation ("SWG") raised concerns over the lack of reasonable limitations associated with APS' requested partial variance. Therefore, APS was requested by the Commission to attempt to resolve these concerns. APS and SWG have reached agreement on the following limitations on the scope of the requested variance:

- A. APS could utilize EPS funding for, and claim as credits toward meeting its EPS requirements, no more than two (2) customer

4/

1 installations per calendar year with a total displacement of natural
2 gas not to exceed 60,000 therms per calendar year.

3 B. Installations pursuant to this partial variance would be limited to
4 displacement of existing natural gas water heating systems, and
5 would not utilize the EPS funding for the displacement of natural
6 gas in new construction.

7 C. Any supplemental or backup water heating system using gas must
8 continue to use natural gas to be eligible to receive EPS funding for
9 solar hot water system conversion.

10 D. APS shall notify SWG of a customer within SWG's service area
11 seeking conversion pursuant to this partial variance within thirty
12 (30) days of signing an agreement with a customer for the purchase
13 of EPS credits for the solar thermal system. Such notification will
14 include the name of the customer, service address, and an estimate
15 of the natural gas water heating load displaced.

16 E. APS shall report to the Commission all solar thermal installations
17 made pursuant to this partial variance as part of its existing semi-
18 annual EPS reporting requirements.

19 Attached is a proposed amendment to the recommended order to reflect the above
20 limitations.

21 ...

22 ...

23 ...

24 ...

25 ...

26 ...

1 RESPECTFULLY SUBMITTED this 31st day of October 2003.

2 PINNACLE WEST CAPITAL
3 CORPORATION LAW DEPARTMENT

4
5 By: Thomas L. Munaw
6 Thomas L. Munaw
7 Attorney for Arizona Public Service
8 Company

9 The original and __ copies of the foregoing were
10 filed this 31st day of October, 2003 with:

11 Docket Control
12 Arizona Corporation Commission
13 1200 West Washington
14 Phoenix, AZ 85007.

15 Copies of the foregoing mailed, faxed or
16 transmitted electronically this 31st
17 day of October, 2003 to:

18 All parties of record.

19 Vicki DiCola
20
21
22
23
24
25
26

1 **BEFORE THE ARIZONA CORPORATION COMMISSION**

2 MARC SPITZER
 Chairman
3 WILLIAM A. MUNDELL
 Commissioner
4 JEFF HATCH-MILLER
 Commissioner
5 MIKE GLEASON
 Commissioner
6 KRISTIN K. MAYES
 Commissioner
7

8 IN THE MATTER OF THE REQUEST BY
9 SO COOL ENERGY, INC. FOR AN
10 EXCEPTION TO ENVIRONMENTAL
11 PORTFOLIO STANDARD RULE
12 DEFINITIONS

DOCKET NO. RE-00000C-00-0377

DECISION NO. _____

ORDER

13 Open Meeting
14 October 26 and 27, 2004
15 Phoenix, Arizona

16 BY THE COMMISSION:

17 FINDINGS OF FACT

18 1. On January 6, 2004, at a Commission Staff meeting, the Commission asked Staff to
19 commence a process to consider possible changes to the Environmental Portfolio Standard rules,
20 A.A.C. R14-2-1618.

21 2. In February 2004, the Commission Staff requested suggestions for changes to the
22 Environmental Portfolio Standard rules. A number of parties submitted comments and suggested
23 possible changes to the rules.

24 3. The Environmental Portfolio Standard Rules, in R14-2-1618 B.3.c., require that in
25 2004 and thereafter, at least 60 percent of the portfolio kWh makeup must come from solar electric
26 technologies.

27 4. On July 21, 2004, So Cool Energy, Inc. sent a letter to the Commission, requesting
28 the designation of a pending solar Heating Ventilation and Air Conditioning ("solar HVAC")

1 project as eligible to meet a portion of the "solar electric" requirement in the Environmental
2 Portfolio Standard Rules.

3 5. Although the Environmental Portfolio Standard Rules do not explicitly include
4 solar HVAC technologies in the definition of "solar electric" technologies, Staff believes that there
5 is a compelling public interest concern in evaluating whether solar HVAC systems can help reduce
6 Arizona's ever-increasing electricity demand in a cost-effective manner. This is particularly true
7 during summer peak periods.

8 6. To date, there have been no solar HVAC projects built that have provided kWh
9 savings that meet EPS requirements. Staff believes that a pilot program including a limited
10 number of solar HVAC systems in Arizona would provide utilities and customers with invaluable
11 information about the procurement, installation, and operation of solar HVAC systems and the
12 economics of this renewable technology.

13 7. Staff recommended that the Commission authorize the establishment by Staff of a
14 Solar Heating Ventilation and Air Conditioning Pilot Program which includes a provision which
15 would allow a maximum of five solar Heating Ventilation and Air Conditioning projects installed
16 in 2004, 2005 or 2006 to be eligible to meet a portion of the "solar electric" requirement in the
17 Environmental Portfolio Standard.

18
19 Proposed Solar Heating Ventilation and Air Conditioning Pilot Program

20 8. The Solar HVAC Pilot Program is designed to encourage the installation and
21 operation of five solar HVAC systems as part of the Arizona Environmental Portfolio Standard
22 effort. The kWhs saved through the Pilot Program would be eligible to meet the "solar electric"
23 requirement in the Environmental Portfolio Standard. In order to be eligible for the Solar HVAC
24 Pilot Program, the solar energy system must include, at a minimum, solar air conditioning. In
25 addition, the solar system may also include solar water heating or solar space heating, or both.
26 Although solar space heating is not currently an eligible technology for the Portfolio Standard, if it
27 is included in a Solar HVAC system in one of the five Pilot Program projects, the kWh savings
28 would be eligible to meet the EPS.

1 Utilities or Electric Service Providers wishing to participate in the Solar HVAC Pilot
2 Program in order to meet a portion of the "solar electric" requirement of the Environmental
3 Portfolio Standard shall file a letter in Docket Control addressed to the Director, Utilities Division,
4 which identifies the solar HVAC project that would meet the Pilot Program requirements.
5 Eligibility for the five project "slots" shall be determined on a first-filed, first-eligible basis. The
6 Docket Control date/time stamp of the letters submitted will determine the five projects which are
7 first in line for eligibility in the Pilot Program.

8 It is hoped that the solar HVAC Pilot Program will encourage the installation of a variety
9 of solar HVAC products from different manufacturers in different utility service territories.
10 However, there is no explicit provision in the Pilot Program that restricts project eligibility in this
11 way.

12 CONCLUSIONS OF LAW

13 1. The Commission has jurisdiction over the Environmental Portfolio Standard Rules
14 and over the subject matter of this application.

15 2. The Commission, having reviewed the application and Staff's Memorandum dated
16 October 7, 2004, concludes that it is in the public interest to approve the formation of a Solar
17 Heating Ventilation and Air Conditioning Pilot Program as defined in Finding of Fact No. 8.

18 ...

19 ...

20 ...

21 ...

22 ...

23 ...

24 ...

25 ...

26 ...

27 ...

28 ...

ORDER

IT IS THEREFORE ORDERED that the formation of a Solar Heating Ventilation and Air Conditioning Pilot Program as defined Finding of Fact No. 8 is approved.

IT IS FURTHER ORDERED that this decision shall become effective immediately.

BY THE ORDER OF THE ARIZONA CORPORATION COMMISSION

CHAIRMAN

COMMISSIONER

COMMISSIONER

COMMISSIONER

COMMISSIONER

IN WITNESS WHEREOF, I BRIAN C. McNEIL, Executive Secretary of the Arizona Corporation Commission, have hereunto, set my hand and caused the official seal of this Commission to be affixed at the Capitol, in the City of Phoenix, this _____ day of _____, 2004.

BRIAN C. McNEIL
Executive Secretary

DISSENT: _____

DISSENT: _____

EGJ:RTW:lhmvJMA

Decision No. _____

1 SERVICE LIST FOR: Environmental Portfolio Standard
2 DOCKET NO. RE-00000C-00-0377

3 Ms. Lori A. Glover
4 President
5 So Cool Energy, Inc.
6 3100 North Third Avenue, Suite 201
7 Phoenix, Arizona 85013-4302

8 Mr. Ernest G. Johnson
9 Director, Utilities Division
10 Arizona Corporation Commission
11 1200 West Washington
12 Phoenix, Arizona 85007

13 Mr. Christopher C. Kempley
14 Chief Counsel
15 Arizona Corporation Commission
16 1200 West Washington
17 Phoenix, Arizona 85007
18
19
20
21
22
23
24
25
26
27
28